

Measurement Chart

Weight

<u>Metric System</u>	<u>Customary System</u>
1 kilogram = 1,000 grams	1 ton = 2,000 pounds 1 pound = 16 ounces

Length

<u>Metric System</u>	<u>Customary System</u>
1 kilometer = 1,000 meters 1 meter = 100 centimeters	1 miles = 1,760 yards 1 yard = 3 feet 1 foot = 12 inches

Capacity

<u>Metric System</u>	<u>Customary System</u>
1 liter = 1,000 milliliters	1 gallon = 4 quarts 1 quart = 2 pints 1 pint = 2 cups

Weight

<u>Metric System</u>	<u>Customary System</u>
Gram –	Ounce –
Kilogram –	Pound –
	Ton –

Length

<u>Metric System</u>	<u>Customary System</u>
Centimeter –	Inch –
Meter –	Foot –
Kilometer –	Yard –
	Mile –

Capacity

<u>Metric System</u>	<u>Customary System</u>
Milliliter –	Cup –
Liter –	Pint –
	Quart –
	Gallon

Example Chart

Weight

<u>Metric System</u>	<u>Customary System</u>
Gram – the weight of a paper clip	Ounce – the weight of a piece of bread
Kilogram – the weight of a textbook	Pound – the weight of a loaf of bread
	Ton – the weight of a small elephant

Length

<u>Metric System</u>	<u>Customary System</u>
Centimeter – the width of your pinky finger	Inch – the length of a paper clip
Meter – the distance from the ground to an adult's hip	Foot – the length of an adult's foot
Kilometer – the length of a short running race	Yard – the distance from the ground to an adult's hip
	Mile – 4 laps around a running track

Capacity

<u>Metric System</u>	<u>Customary System</u>
Milliliter – one drop from an eyedropper	Cup – a milk carton from the cafeteria
Liter – a large bottle of soda	Pint – a small water bottle
	Quart – a large bottle of soda
	Gallon – a milk jug

Name : _____

Score : _____

Estimating Linear Measurement

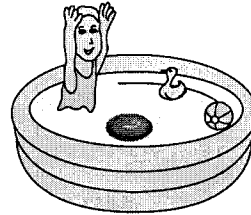
Choose the correct answer that best estimates length, height or depth of each object.

1) Length of spoon



- 5 feet
- 2 yards
- 5 inches

2) Depth of bathtub



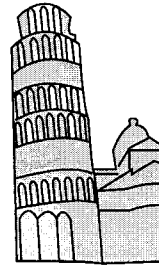
- 3 yards
- 8 inches
- 2 feet

3) Length of brush



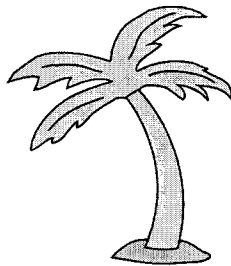
- 3 feet
- 10 inches
- 2 yards

4) Height of Pisa tower



- 61 yards
- 70 inches
- 20 feet

5) Height of tree



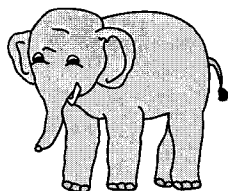
- 9 inches
- 3 feet
- 10 yards

6) Length of pen



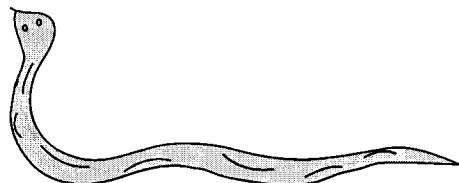
- 12 feet
- 5 inches
- 5 yards

7) Height of baby elephant



- 5 yards
- 5 feet
- 5 inches

8) Length of snake

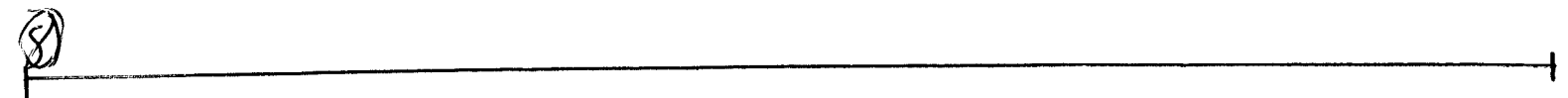
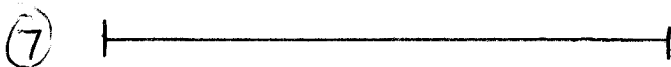
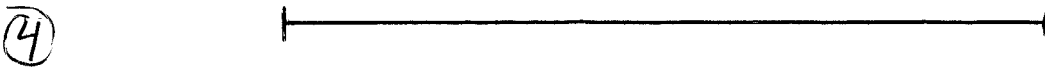
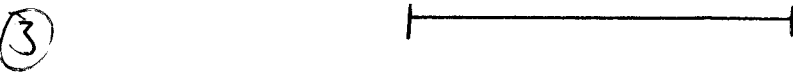


- 6 feet
- 4 inches
- 10 yards

9 

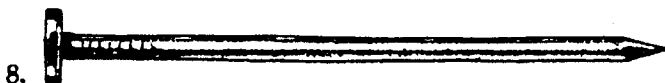
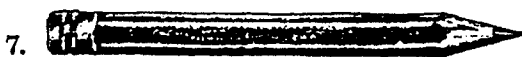
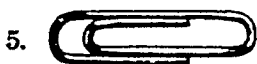
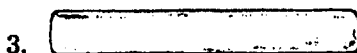
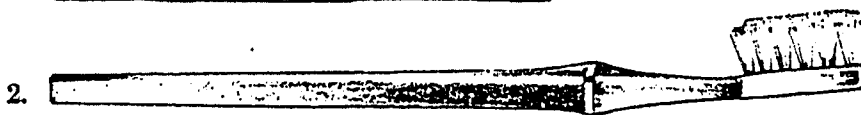
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* measure to the nearest inch



Practice

Measure the length of each item to the nearest quarter inch.



Apply

Solve these problems.

9. Yoko made a paper chain that was 145 inches long. Liz made one 96 inches long. If they joined them together, how long would the chain be?

10. Sherry bought 108 inches of ribbon to use on a school project. She only needs 79 inches for the project. How many inches of ribbon were left over?

Name _____

Fractions of an Inch

P 10-8

Measure each to the nearest $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, and $\frac{1}{8}$ inch.

1.  _____, _____, _____

2.  _____, _____, _____

3.  _____, _____, _____

4. Draw a line segment that is $4\frac{5}{8}$ in. long to the nearest $\frac{1}{8}$ inch and $4\frac{3}{4}$ in. to the nearest $\frac{1}{4}$ inch.

What is the combined diameter of

5. 2 pennies to the nearest $\frac{1}{4}$ inch?

6. 1 nickel and 1 dime to the nearest $\frac{1}{8}$ inch?

**Diameter of Coin
to Nearest $\frac{1}{8}$ in.**

Penny	$\frac{3}{4}$ in.
Nickel	$\frac{7}{8}$ in.
Dime	$\frac{3}{4}$ in.
Quarter	1 in.

Test Prep

7. Find the length to the nearest $\frac{1}{4}$ in.



A. 1 in.

B. $1\frac{1}{4}$ in.

C. $1\frac{1}{2}$ in.

D. 2 in.

8. **Writing in Math** Use the information in the table above. Which coin would be useful to measure an object to the nearest inch? Explain.

Name _____

Capacity and Customary Units

P 10-9

Choose the most appropriate unit or units to measure the capacity of each. Write tsp, tbsp, fl oz, c, pt, qt, or gal.

- | | |
|----------------------------|-----------------------------|
| 1. teacup _____ | 2. juice box _____ |
| 3. motor oil _____ | 4. pepper in a recipe _____ |
| 5. carton of creamer _____ | 6. lake _____ |

7. **Number Sense** Would a teaspoon be a good way to measure the capacity of a milk carton? Explain.

8. A refreshment jug for the baseball team holds 20 gal of water. To make an energy drink, 1 c of mix is used for every 2 gal of water. How many cups of the mix are needed to fill the jug with energy drink? _____

Test Prep

9. Which unit has the greatest capacity?

A. Tablespoon

B. Quart

C. Pint

D. Teaspoon

10. **Writing in Math** Cassidy says that capacity is the same as the amount. Do you agree? Explain why or why not.

Name _____

Weight and Customary Units

PS 10-10

For 1–9, tell if you think each statement is true or false. If you think it is false, write the correct unit of weight.

1. A bunch of bananas should be measured in ounces. _____
2. An airplane should be measured in pounds. _____
3. A bag of potting soil should be measured in pounds. _____
4. A sofa should be measured in ounces. _____
5. An encyclopedia should be measured in ounces. _____
6. A truck should be measured in tons. _____
7. A mouse should be measured in pounds. _____
8. An elephant should be measured in tons. _____
9. A postcard should be measured in pounds. _____

10. **Writing in Math** Name an example when it would be reasonable to measure something in either pounds or ounces. Explain.

Name _____

Changing Units and Comparing Measures

PS 10-11

Change customary units as necessary to solve 1–8.

1. Chris is 4 ft 11 in. tall. How tall is he in inches? _____
2. It is 3,520 yd from Mica's house to school.
How many miles is that? _____
3. Ben's aquarium holds 8 gal of water. How
many quarts is that? _____
4. Gina's dog weighs 5 lb. How many
ounces is that? _____
5. Marcy's room is 108 in. wide. How many
yards is that? _____
6. Which weighs more, 3 lb or 52 oz of flour?

7. Which is greater, 20 fl oz or 2 c of water?

8. Which is longer, a desk that measures 2 yd or a desk that
measures 70 in.? _____
9. **Writing in Math** An African bush elephant can weigh up to
8 T. Is that more than or less than 20,000 lb? Explain.

Name _____

Changing Units and Comparing Measures

P 10-11

Find each missing number.

1. 2 ft = _____ in.

2. 8 qt = _____ pt

3. 2 gal = _____ qt

4. 9 ft = _____ yd

5. 64 oz = _____ lb

6. 10,560 ft = _____ mi

7. 20 T = _____ lb

8. 4 lb, 6 oz = _____ oz

Compare. Write > or < for each .

9. 20 pt, 2 c 12 qt

10. 10 lb 200 oz

11. 13 ft, 6 in. 5 yd

12. 100 in. 2 yd

13. 3 gal 10 qt

14. 9 oz 9 lb

15. How many inches long is the longest car?

16. How many ounces does the lightest car weigh?

Car Records

Lightest car	21 lb
Heaviest car	7,353 lb
Longest car	100 ft

Test Prep

17. How many fluid ounces are in 6 c?

A. 32

B. 40

C. 48

D. 54

18. **Writing in Math** Explain why you cannot convert fluid ounces to pounds.

Name: _____

Units of Measurement

Directions: The chart shows the weight of 4 dogs at the pet store. List the dogs in order from the dog that weighs the **least** to the dog that weighs the **most**.

<u>Dog</u>	<u>Weight</u>
Baxter	12 lbs., 5 oz.
Casey	160 oz.
Fifi	11 lbs. 10 oz.
June	193 oz.

Directions: The chart shows the height of 4 students in Mrs. Carol's class. List the students in order from the **tallest** to the **shortest**.

<u>Student</u>	<u>Height</u>
Graham	48 in.
Olivia	4 ft., 1 in.
Ronaldo	1 yd., 10 in.
Nathan	50 in.

Directions: The chart shows the capacity of 4 different vases. List the vases in order from the vase that holds the **most** to the vase that holds the **least**.

<u>Vase</u>	<u>Capacity</u>
Vase 1	5 cups
Vase 2	1 quart
Vase 3	3 pints, 1 cup
Vase 4	3 pints

Name : _____

Score : _____

U.S. Customary Unit Conversion - Length

Convert :

1) 444 in = _____ ft

2) 147 ft = _____ yd

3) 19 yd = _____ in

4) 17 yd = _____ ft

5) 900 in = _____ yd

6) 23 ft = _____ in

7) 222 ft = _____ yd

8) 10 yd = _____ in

9) 62 yd = _____ ft

10) 972 in = _____ ft

11) 54 ft = _____ in

12) 1224 in = _____ yd

13) 93 ft = _____ yd

14) 46 yd = _____ ft

15) 8 yd = _____ in

16) 336 in = _____ ft

Name _____

PROBLEM-SOLVING APPLICATION

P 10-13

Measurements Abound!

Solve each problem. Write your answer in a complete sentence.

1. Ted has 20 ft of rope and Lou has 42 ft of rope. They need to have at least 12 yd of rope between the two of them. Do they have enough? Explain your answer.

2. Arnold, Cathy, Derrick, and Eldon each have a different pet. They have a dog, a cat, a bird, and an iguana. Arnold is allergic to anything with fur. Cathy's pet can say some words, and likes to eat sunflower seeds. Derrick does not have a cat. What kind of animal is Eldon's pet?

Christie runs every morning before school. This week she ran $\frac{2}{3}$ mi each on Monday, Wednesday, and Thursday. She ran $\frac{1}{2}$ mi on Tuesday and $\frac{7}{9}$ mi on Friday.

3. How far did Christie run on Monday, Wednesday, and Thursday combined?

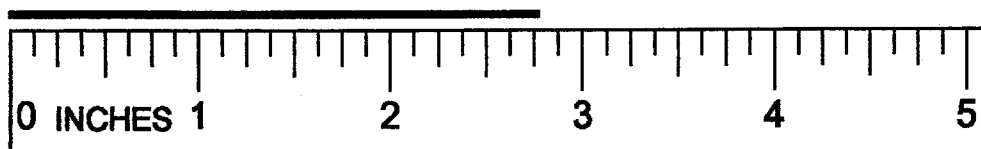
4. Christie wants to run at least 3 mi each week. Did she meet her goal this week? Explain how you decided.

Chapter 10B Review

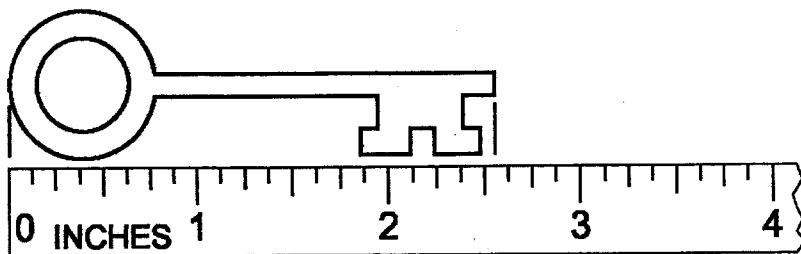
Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 1. Nina's sister is shorter than Lu-Chan's sister but taller than Randall's. Randall's sister is taller than Yancy's. Who has the shortest sister?
- a. Yancy c. Nina
b. Randall d. Lu-Chan
- _____ 2. Rodolfo, Susan, Elisa, and Brandee have different hobbies. The person who likes to paint rides the same bus as Brandee. Susan likes to exercise. Elisa likes to write stories. Who likes to swim?
- a. Elisa c. Brandee
b. Susan d. Rodolfo
- _____ 3. Which is the best estimate of the length of a car?
- a. 12 feet c. 12 miles
b. 12 yards d. 12 inches
- _____ 4. How long is the line segment to the nearest inch?



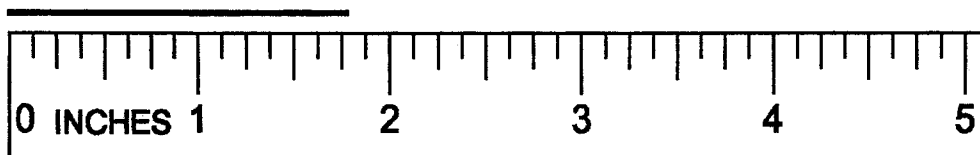
- _____ 5. Which is the best estimate for the length of a mop?
a. 5 ft b. 5 yd c. 5 in. d. 5 mi
- _____ 6. Miles would be the most appropriate unit for measuring the length of which object?
a. the Amazon River c. a beluga whale
b. a Chinese eggroll d. the Empire State Building
- _____ 7. What is the length of this key to the nearest $\frac{1}{4}$ inch?



- a. 2 inches
- b. $2\frac{1}{4}$ inches
- c. $2\frac{1}{2}$ inches
- d. $2\frac{3}{4}$ inches

8. Which is the most reasonable unit to measure the capacity of a bathtub?
- a. cup c. quart
b. gallon d. pint
9. Which is the most appropriate unit to measure the capacity of a medicine bottle?
- a. cup c. gallon
b. quart d. fluid ounces
10. Lake Michigan is one of the five Great Lakes in North America. Which is the most appropriate unit to measure the capacity of water in the lake?
- a. quart c. cup
b. gallon d. pint
11. Pounds would be the most appropriate unit for measuring the weight of which object?
- a. a paper clip c. frog
b. an airplane d. bag of sugar
12. Which is the most appropriate tool to measure the weight of a dog?
- a. yard stick c. ruler
b. quart jar d. scale
13. Which is the most appropriate unit to measure the weight of a blue whale?
- a. ton c. quart
b. pound d. ounce
14. Find the missing number.
- 4 yards = _____ inches
- a. 12 b. 48 c. 144 d. 400
15. Find the missing number.
- 16 fl oz = _____ c
- a. 2 b. 4 c. 8 d. 32
16. Sute's cat weighs 9 pounds 8 ounces. What is the weight of Sute's cat in ounces?
- a. 152 ounces c. 80 ounces
b. 116 ounces d. 33 ounces
17. The king cobra has a maximum length of 19 feet. How many inches long is this snake?
- a. 684 inches c. 57 inches
b. 228 inches d. 38 inches
18. Which statement is NOT correct?
- a. 25 in. > 2 ft c. 25 in. < 1 yd
b. 2 ft 5 in. < 34 in. d. 1 yd < 34 in.
19. At a tournament refreshment stand, a taco costs \$2.85, and a drink costs \$1.01. You want to buy 2 tacos and 2 drinks. You have \$9. Do you need an exact answer or is an estimate enough to decide if you have enough money? Solve.
- a. estimate; The total cost is about \$10. You do not have enough money.
b. estimate; The total cost is about \$8. You have enough money.
c. exact answer; The total cost is \$7.72. You have enough money.
d. exact answer; The total cost is \$9.52. You do not have enough money.

20. Joy is making fruit punch. Will $\frac{3}{8}$ gallon of pineapple juice and $\frac{1}{4}$ gallon of orange juice fit in a 1-gallon punch bowl? Use an estimate to explain.
- yes; $\frac{3}{8} < \frac{1}{2}$ and $\frac{1}{4} < \frac{1}{2}$, so $\frac{3}{8} + \frac{1}{4} < 1$.
 - no; $\frac{3}{8}$ gallon and $\frac{1}{4}$ gallon is about 2 gallons.
 - no; $\frac{3}{8} > \frac{1}{2}$ and $\frac{1}{4} > \frac{1}{2}$, so $\frac{3}{8} + \frac{1}{4} > 1$.
 - yes; $\frac{3}{8} + \frac{1}{4} < \frac{1}{2}$
21. Andrea walked 260 feet north. Then she turned and walked 603 feet west. Do you need an exact answer or is an estimate enough to determine about how many yards she walked? Solve.
- exact answer; 201 yards
 - exact answer; 211 yards
 - estimate; about 200 yards
 - estimate; about 300 yards
22. Theresa says that the line segment below is 2 inches long. Did she measure it to the nearest $\frac{1}{2}$ inch or nearest $\frac{1}{4}$ inch? _____



On the lines below, explain your reasoning.

23. A punch recipe calls for 1 gallon of fruit juice. Is 9 pints of juice more or less than 1 gallon?

Explain how you got your answer.
